IN THE SPECIFICATION:

Please insert the following paragraphs on page 1, after line 3, before the second paragraph:

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In US-A-5831805 there is disclosed a local power failure detection and clock disabling circuit operating within a node coupled to a bus structure. The node includes multiple ports and physical connections for supporting multiple applications. Each physical connection serves as a bus transceiver for receiving and transmitting communications over the bus structure. The node includes a local power supply and a clock signal which is provided to each of the physical connections within the node. A detection circuit is coupled to the local power supply for detecting whether or not a sufficient level of power is being supplied from the local power supply. The clock signal is always provided to a master physical connection within the node, which is responsible for repeating communications across the bus structure. The master physical connection draws power from the backup power supply source when the local power supply is not supplying a sufficient level of power. When the detection circuit has detected that the local power supply is not supplying a sufficient level of power, the clock signal is disabled to all of the physical connections within the node, except the master physical

connection, in order to minimize power consumption of the node. The local applications coupled to the node are also disabled when a sufficient level of power is not supplied from the local power supply. When the detection circuit detects that the local power supply is again supplying power at a sufficient level, the clock signal is reenabled to all of the physical connections within the node and the local applications are also reenabled.

In US-A-5757265 there is disclosed a field bus system in which transmission ability of the system can be maintained even if communication error occurs due to noises or failure of a transmission line. The system can be easily shifted at a lower cost from a conventional system to the field bus system without degrading the high reliability thereof. The transmission line is constituted by a multiple-cable transmission line having at least three transmission cables. An external power supply supplies power to field devices through a pair of transmission cables of the multiple-cable transmission line. The field devices are connected to the transmission cables through a transmission line switching unit constituted by a plurality of rectifier elements, so that the field devices are supplied with current flowing in one predetermined direction when any of the pairs of transmission cables is selected. The external power supply monitors a failure of a currently used pair of transmission cables and, upon detection of failure of the currently used pair

of transmission cables, the failed pair is replaced by a normal pair of transmission cables such that the field devices are continuously supplied with power.

In US-A1-2002/169582 there is disclosed a field device coupleable to a fieldbus process communication loop, the device comprising: a power module coupleable to the loop to power the device with energy received from the loop, a fieldbus loop communicator coupleable to the loop, and adapted to bi-directionally communicate over the loop, a controller coupled to the fieldbus loop communicator, diagnostic circuitry coupled to the controller and operably coupleable to the loop, the diagnostic circuitry adapted to measure a loop-related parameter, and wherein the controller provides diagnostic information based upon the loop-related parameter.

In WO-A-02/099663 there is disclosed an intrinsically safe field bus system comprising a field bus, a power source, a terminating resistor and at least one field bus device connected to the field bus. The power source is connected to a first end of the field bus and the terminating resistor terminates the field bus on the other end. The power source generates a periodic alternating signal, has a reactance as a terminating resistor and a unit for control and adjustment of the power source according to the input impedance (ZBus) of the field bus.

The field bus input current (IBus) is kept constant when the input impedance (ZBus) in a first range of operation (I) is smaller than the wave impedance (ZW) of the field bus line, and the field bus input voltage (UBus) is adjusted to a constant maximum voltage (Umax) and the field bus input current (IBus) is adjusted according to the input impedance (ZBus) if the input impedance (ZBus) exceeds the value of the wave impedance (Zw) in a second operating range (II).

In DE-A-10104908 there is disclosed an electronic device for permanent monitoring electrically measurable states or values of bus systems, such as Profibuses, field buses, etc., after the bus has been installed, with two bus conductors, a comprehensive power supply and data bus, that connects a bus master and a bus slave together. Accordingly the device samples a number of connections of the electrically measurable bus conductors using a permanent circuit connection for voltage or current measurement, testing earth connection testing the quality of the bus conductors and the signals they carry. The current testing of bus systems is based an connection of measurement meters and multimeters after installation to test the bus system and to correct any faults.

What is needed is a diagnostic system for a modular fieldbus board carrying a number of fieldbuses connected to a bulk power supply, comprises a monitoring transceiver means, such that the monitoring transceiver means can detect one or more fieldbus physical layer characteristics. --